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| 09/888,340 | 06/22/2001 | Michael Neal | DEM1P007 | 7213 |
| 36088 | 7590 | 08/10/2006 | EXAMINER | |
| KANG LIM 3494 CAMINO TASSAJARA ROAD #436 DANVILLE, CA 94306 | | | NELSON, FREDA ANN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3639 | |

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,340

Applicant(s)

NEAL ET AL.

Examiner

Freda A. Nelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The amendment received on May 23, 2006 is acknowledged and entered. Claims 1-2, 4, 10-13 and 19 has been amended. No claims have been added. Claims 1-19 are currently pending.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 23, 2006 has been entered.

Response to Amendment and Arguments

Applicant's arguments, see pages 11-21, filed May 23, 2006, with respect to the rejection(s) of claim(s) 1 and 11 under 35 U.S.C. 102(b) and claims 2-19 under 35 U.S.C 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Parunak et al. (US Patent Number 6,536,935).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-4, 10-11, and 13-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 1, line 4; claim 3, line 2; claim 4, lines 6 and 9, claim 10, lines 9 and 16; claim 11, lines 4 and 5; claim 13, lines 6, 9, and 16, and claim 19, lines 9 and 16, the applicant uses the claim language "allow(s)" and/or "allowing" which is indefinite. The examiner is able to determine what the applicant is actually claiming.

Claim 11 recites the limitation "the prioritization" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 14 and 17, respectively, recite the limitation "the change" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 15 and 16, respectively, recites the limitation "the change" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the difference" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Damian et al (US 5,212,791), in view of Parunak et al. (US Patent Number 6,536,935).

As per claims 1 and 11, Damian et al discloses computer readable code for storing a plurality of rules/storing a plurality of rules, (col.107, lines 37-42, shows memory for string the set of rules, w/ col. 9, lines 63-64, shows hard coded rules applied);

computer readable code for allowing the prioritization of the plurality of rules/ allowing the prioritization of the plurality of rules, (col. 10, line 5, line 15, lines 40-41, shows low, medium and high priority rules respectively); and

computer readable code for relaxing at least one lower priority rule to allow a higher priority rule to become feasible/ relaxing at least one lower priority rule to allow a higher priority rule to become feasible, (col. 5, lines 30-34, attaining feasible schedules, w/ col. 108, lines 37-46, lowering error counts [medium rules] to alter disposition rules [high priority rules] thereby relaxing rules to make schedule more feasible.

Damian et al. discloses that cost benefits of one schedule over another are determined, where the cost of making the schedule that has benefits represents the preferred set of prices, in this case, the system is a rule based scheduling system, therefore any parameter considered when determining a schedule must meet rules used to determine the schedule (Col. 5, lines 35-38), however, Damian et al do not expressly disclose a computer readable code for performing for performing an optimization process to generate the preferred set of prices wherein the preferred set of

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prices meets the plurality of rules wherein a rule is feasible if said optimization process can be performed without violating said rule, further wherein the preferred set of prices is a set of product prices generated for said plurality of products.

Parunak et al. disclose that product design or manufacturing planning and scheduling are exemplary of a constraint optimization problem in which the various components must agree on the shared variables in which they are interested, subject to the objective of producing a design or manufacturing process that will optimize the profitability of the overall system; and the details of designing/manufacturing affect at least two aspects of this objective: the cost of designing/manufacturing and the price the customer will pay. For many applications, the best solution is the one that maximizes the amount by which the price the customer will pay exceeds the cost of designing/manufacturing (col. 5, lines 33-44); and in the preferred embodiment, three separate tests are applied to identify lack of overlap and provide information to the constraint agents that may help them close the gap: (Test 1) The price ranges specified by the constraint agents may not overlap, (Test 2) The constraint agents may have opposing preferences for different alternatives; and (Test 3) Some alternatives may not be directly comparable in the price DAG from one or another of the negotiating constraint agents (col. 22, line 22-col. 23, line 27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Damian et al. to include the feature of Parunak et al. in order to use various scenarios to maximize profits.

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2. Claims 2-4, 10, 12, 13, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damian et al (5,212,791) in view of Parunak et al., as applied to claim 1 above, and further in view of Ouimet et al. (US Patent Number 6,094,641), still in further view of Herz et al. (US PG Pub. 2001/0014868).

As per claims 2 and 12, Damian et al fails to disclose the following, but does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al discloses an econometric engine for modeling sales as a function of price to create a sales model/creating a sales model, (col. 4, lines 35-44, (demand model gives predicted sales of an item based on price);

a financial model engine for modeling costs to create an activity based cost Model/creating an activity based cost model, wherein the generating a preferred set of prices uses information from the creation of the sales model and the creation of the cost model (col. 4, lines 52-53, (pricing model)), which includes an activity-based cost model since the prices are determined for sales, in this case the activity is selling (col. 2, lines 1-12), including visibility, and taking the promotional cost into account when modifying the demand model, in this case, the module is inherent with Ouimet since Ouimet's system is computer-implemented and in order to create models, a module is necessary in a computerized system); and

wherein the optimization engine is coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices, (col. 5,

lines 45148, [using fitted, modified demand model to determine price that will maximize profits, {optimization})). Ouimet et al discloses this limitation in analogous art for the purpose of showing how products can be implemented in models.

Herz et al. disclose that in mathematical terms, $\text{profit} = q(V, X) p(V, X)$ where $q(V, X)$ = quantity sold times profit, where profit, p , is a known function of the shopper, V , and offer, X , and the quantity sold, q , is a function which needs to be estimated. Once one has estimated $q(V, X)$ by clustering similar shoppers and offers together (as described above) and using the expectation that similar shoppers will buy similar quantities of similar offers, then profit can be maximized directly by the obvious method of seeing what V and X make the profit largest (paragraph [0240]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include the features of Herz et al. in order to implement an econometric engine, a financial model engine and an optimization engine with the motivation of ultimately optimizing prices.

As per claim 3, Damian et al discloses further comprising a support tool for allowing a user to set a plurality of rules and for prioritizing the plurality of rules (col. 2, lines 29-31, interference engine).

As per claims 4, 10, 13, and 19, Damian et al discloses computer readable code for determining a priority of a rule determined to be infeasible/determining a priority of a rule determined to be infeasible/determining the lowest priority infeasible rule (col. 5,

lines 46-47, using computer scheduler to determine when no feasible outcome is available, (col. 6, lines 21-31, shows lowest leveling hierarchy maintains the up-to-date status of each production resource, w/ col. 108, lines 21-24, shows process is repeated to find feasible outcome, therefore the lowest level in the hierarch is repeatedly used to find feasible outcome);

computer readable code for determining a lowest priority infeasible rule, (col. 10, lines 5-8, shows an example of when a low priority rule becomes active, it picks a "child" schedule just generated and uses it a "parent" to generate further children, therefore the determination of the lowest priority rule is obvious since further children schedules are produced which are of lower priorities of the already low priority "parent" schedule, and order to produce a lower priority schedule, the lowest priority schedule must be known in order for production to take place);

computer readable code for determining if at least one rule with a lower priority than the priority of the rule determined to be the lowest priority infeasible rule may be related to allow the rule determined to be the lowest priority infeasible rule to become feasible; and computer readable code for relaxing at least one rule with a lower priority than the priority of the rule determined to be the lowest priority infeasible rule to allow the rule determined to be the lowest priority infeasible rule to become feasible/determining if at least one rule with a lower priority than the priority of the rule determined to be infeasible/lowest priority infeasible rule may be relaxed to allow the rule determined to be infeasible to become feasible; relaxing at least one rule with a lower priority than the priority of the rule determined to be infeasible/lowest priority

infeasible rule to allow the rule determined to be infeasible to become feasible, (col. 5, lines.47-48, obtaining feasible schedules, and easing constraints until an acceptable schedule is obtained);

prioritizing each said at least one rule with a lower priority than the priority of the rule determined to be the lowest priority infeasible rule (col. 10, lines 5-35); and

sequentially relaxing in order of priority from lowest priority to highest priority each said at least one rule with a lower priority than the priority of the rule determined to be the lowest priority infeasible rule to become feasible, wherein each said rule is relaxed incrementally in sequence until said point is reached (col. 6, lines 6-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to determine a lowest priority infeasible rule with the motivation of using this lower priority rule to produce the lowest priority schedules.

3. Claims 5-9, and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Damian et al (5,212,791) as applied to claim I above, and further in view of Ouimet et al. (US 6,094,641), and still in further view of Ouimet et al (6,308,162).

As per claims 5 and 14, neither Damian et al nor Ouimet et al. '64I disclose wherein at least one of the plurality of rules is a gross margin rule, which defines a constraint on the change of gross margin, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5. However, Ouimet et al '162 discloses wherein at least one of the plurality of

rules is a gross margin rule, which defines a constraint on the change of gross margin, (col. 4, lines 5-10, use of enterprise model to show increase in gross margin, w/ col. 9, lines 21-27, shows scenario analysis routine implemented with the gross margin).

Ouimet et al '162 discloses this limitation in an analogous art for the purpose of showing how the gross margin is implemented in the optimization of enterprise planning models. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for a rule to be a gross margin rule with the motivation of ultimately having a definition of rules in a gross marginal situation.

As per claims 6 and 15 neither Damian et al nor Ouimet et al '641 disclose wherein the constraint on change of the gross margin is placed on each product of a group of products, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al. '162 discloses wherein the constraint on change of the gross margin is placed on each product of a group of products, (col. 4, lines 22-23, shows use of models to price products).

Ouimet et al. '162 discloses this limitation in an analogous art for the purpose of showing that price is implemented into the equation for determining gross margin. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the constraint on change of the gross margin to be placed on each product of a group of products with the motivation of ensuring that each product will stay in a specific price range that will achieve the gross margin.

As per claims 7 and 16, neither Damian et al nor Ouimet et al '64I disclose wherein the constraint on change of the gross margin is placed on an average gross margin of a group of products, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al .162 discloses wherein the constraint on change of the gross margin is placed on an average gross margin of a group of products, (col. 13, lines 29-41, where the auxiliary goal (finding gross margin) is represented by the average price, see col. 9, lines 24-26).

Ouimet et al. '162 discloses this limitation in an analogous art for the purpose of showing how the gross margin is implemented in the optimization of enterprise planning models. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention for the constraint on change of the gross margin to be placed on an average gross margin of a group of products with the motivation of ensuring that each product will stay in a specific price range that will achieve an average gross margin.

As per claims 8 and 17, neither Damian et al nor Ouimet et al '64I disclose wherein at least one of the plurality of rules is a store level volume rule, which defines a constraint on the change of volume of sales at a store level, but Damian et al does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al. '162 discloses wherein at least one of the plurality of rules is a store level volume rule, which defines a constraint on the change of volume of sales at a store level, (col. 5, lines 43-64, total amount of sales). Ouimet et al. '162 discloses this limitation in an analogous art for the purpose of showing that the total amount of sales is implemented in the optimization of enterprise planning models. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention for at least one of the plurality of rules to be a store level volume rule, which defines a constraint on the change of volume of sales at a store level with the motivation of ensuring that each product will stay at a specific volume that will achieve a gross margin.

As per claims 9 and 18, neither Damian et al nor Ouimet et al 641 disclose wherein at least one of the plurality of rules is a competition rule, which provides a constraint on the difference between at least one competitor's prices, but Damian et al. does disclose a production scheduling system that implements dynamic scheduling for products in the abstract, lines 1-5.

However, Ouimet et al. '162 discloses wherein at least one of the plurality of rules is a competition rule, which provides a constraint on the difference between at least one competitor's prices, (col. 10, lines 34-39, using competitive data to find price image image). Ouimet et al. '162 discloses this limitation in an analogous art for the purpose of showing that competitor's prices are implemented in the optimization of enterprise planning models. Therefore, it would

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have been obvious to one of ordinary skill in the art at the time of the applicant's invention for at least one of the plurality of rules to be a competition rule, which provides a constraint on the difference between at least one competitor's prices with the motivation of ensuring that each product will stay at a specific price lower than competitor's prices so a gross margin can be achieved.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

1) Kumar et al. (US PG Pub. 2002/0042755), which discloses collaborative fulfillment in a distributed supply chain environment.

2) Ahlstrom et al. (US Patent Number 4,862,357), which disclose a computer reservation system with means to rank travel itineraries chosen in terms of schedule/fare data.

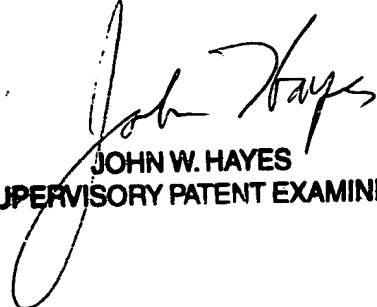
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freda A. Nelson whose telephone number is (571) 272-7076. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FAN 08/07/06



JOHN W. HAYES
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